



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENTS

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In re Application of:

Yoshihisa Kamiya

Serial No. 10/083,751

Filed: FEBRUARY 25, 2002

For: CYLINDRICAL COMMUTATOR  
SECURELY FIXED TO MOLD RESIN

Art Unit: 2834

Examiner: Heba Elkassabgi

**SECOND RESPONSE**

Assistant Commissioner for Patents  
Washington, DC 20231


Sir:

Responsive to the Office Action mailed November 27, 2002, in the patent application identified above, please enter the following amendments and reconsider that application in view of the appended remarks. This amendment is submitted in the revised format authorized by the United States Patent and Trademark Office in a Notice dated February 4, 2003.

A substitute abstract on a separate sheet is enclosed as part of this response.

A Request for Continued Examination accompanies this response.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, DC 20231, on **February 27, 2003**.

  
Roger T. Frost - Reg. No. 22,176

*Second Response*

*Application Serial No.: 10/083,751*

*Filed: February 25, 2002*

**AMENDMENTS TO THE CLAIMS**

1.-2. (Cancelled)

3. (Currently amended) A cylindrical commutator according to claim 5, further comprising second anchors, the second anchors being respectively projected inward from proximal ends of the hooks and embedded in the mold resin, wherein the thickness of each hook is divided into two, and the internal side of the divided hook is bent toward the inside so as to be the second anchor.

4. (Withdrawn)

5. (Currently amended) A cylindrical commutator comprising:  
a plurality of mutually insulated segments arranged at equal intervals on the external periphery of a cylindrical surface, each of the segments including a hook for line connection extending from ~~one~~ a first end thereof, a groove formed on an inner surface thereof and one or more anchors extending along the groove ~~over substantially the total length of the segment,~~ the anchors being projected from the inner surface thereof, the groove and the anchors being extended from a second end of the segment opposite to the first end and being ended close to the first end by an end step and end edges respectively;

a mold resin for fixing the segments in a cylindrical shape, the anchors, the end edges of the anchors, the grooves and the end steps of the grooves being embedded therein;  
and

undercuts formed on the mold resin for separating the segments.

***Second Response***

***Application Serial No.: 10/083,751***

***Filed: February 25, 2002***

6. (Previously added) A cylindrical commutator comprising:

a plurality of mutually insulated segments arranged at equal intervals on the external periphery of a cylindrical surface, each of the segments including a hook for line connection extending from one end thereof, a groove formed on an inner surface thereof and a pair of anchors on both sides of the groove extending over substantially the total length of the segment, the pair of anchors being connected with each other at the end of the groove on the side near the hooks and slanted to the groove at the other end of the groove;

a mold resin for fixing the segments in a cylindrical shape, the anchors being embedded therein; and

undercuts formed on the mold resin for separating the segments.